Testimony Submitted by Dr. Timothy Bradley, Director, UC Irvine Salton Sea Initiative
For Little Hoover Commission Hearing on the Salton Sea, June 25, 2015

I am sure that the Commissioners are well aware of the many environmental, economic, social and legal challenges associated with the environmental degradation that has been occurring at the Salton Sea. These have been fully outlined in the "Hazards Report" published by the Pacific Institute, and several of the commissioners have observed the issues first hand on their recent tour of the Salton Sea and its surroundings.

What you may not be aware of is the presence of ample evidence from other parts of the world of the devastating effects of salt lake shrinkage on health and economic well-being. One such example is the Aral Sea. In the mid-twentieth century the Aral Sea in central Asia was the fourth largest inland body of water in the world. After the rivers emptying into the Aral Sea were diverted for irrigation, the Sea shrank, producing vast stretches of dry, salty lake bed that spawned toxic dust storms. Valuable fisheries associated with the sea collapsed, impoverishing the inhabitants of the region and stranding large commercial fishing fleets. Occurrence of lung cancer, emphysema, tuberculosis, and congestive lung failure soared. Today, the Aral Sea has largely disappeared, leaving a salty desert behind. The result has been devastation of the economy, ecology and public health of a large swath of central Asia.

A similar, albeit much less extensive occurrence happened here in California. Diversion of the Owens River to Los Angeles resulted in a drying up of Owens Lake. The resulting dry lake bed is the source of dust, causing the Owens Valley to routinely fall out of compliance with air quality regulations. To try to deal with the air quality problems in the valley, the Los Angeles Department of Water and Power (LADWP) has spent more than $1.2 billion dollars on air mitigation procedures.

But our experiences in dealing with such environmental problems have not all led to disaster. Here in California in the 1970's and 80's, we faced similar problems at Mono Lake. Diversion of freshwater inflows into the lake were causing it to become more salty and to shrink in volume, exposing salt flats that generated salty clouds of dust. Falling lake levels also connected islands to the mainland, allowing predators access to bird breeding sites that had supported bird breeding for centuries.

Lengthy legal squabbling was finally settled by the courts in a manner that Solomon would have appreciated. Using the Public Trust doctrine, the courts decreed that a specific lake level needed to be maintained to protect wildlife, esthetic and touristic values, and the public health of the inhabitants and many tourists in the valley. In the process, however, the water rights of the LADWP were recognized and protected. Water exports from the basin were restricted until the lake reached a level of 6380 feet above mean sea level. At that point, exports were increased to 16,000 acre feet/yr. When the lake reaches a level of 6391, exports will be increased to 30,000 acre feett/yr. Exports are therefore maximized, subject to the public trust needs of the people of California and, of course, the vagaries of our highly variable climate.

Mono Lake is an example of a very rare event in the history of environmental politics: a win-win solution. California has demonstrated that it has the foresight and honesty to deal with these issues, despite the complexity of the legal, medical, esthetic, economic and environmental parameters.

We have the opportunity at the Salton Sea to once again move forward in a concerted manner, not only to provide for the needs of all sides, but in a way that will immediately strengthen the economy, meet environmental energy goals, and improve public health. There is no magic bullet that will suddenly return the Salton Sea to the bucolic condition it enjoyed in the mid twentieth century. There is, however, consensus around a series of programs that will yield

immediate economic and environmental benefits. Most importantly, these approaches also protect the public health of hundreds of thousands of Californians.

We advocate for the following three lines of actions:

(1) There needs to be immediate implementation of engineering projects (e.g. marsh-building) that will serve to suppress fugitive dust. Three such marsh building projects are the Imperial Irrigation District's Red Hill Bay Project, the State of California's Species Conservation Habitat Project, and the Torres-Martinez managed marsh. We hope that your commission will emphasize the importance of implementing and completing these projects with a sense of urgency. These projects will protect the environment and reduce the production of fugitive dust, but they also serve as proof of concept projects for the larger mitigation projects that will be essential in the future. With managed marshes along its shore that support fish, and open waters rich in invertebrate species, a future Sea can continue to support abundant and diverse populations of birds while protecting public health by minimizing dust.

(2) The southeast shore of the Salton Sea includes a region that is the most productive site in the United States for the development of geothermal energy. Geothermal energy is the most environmentally friendly of the various forms of renewable energy. While solar and wind power have been fast-tracked, another vital, homegrown source of renewable energy - geothermal power - has not received the same attention and support. The State has identified renewable energy production as a vital goal for energy independence and economic development in the future. Financial and regulatory support for geothermal energy would promote this statewide goal and would provide a stimulus for the economy in the Imperial Valley region. At present, the tax benefits for wind and solar energy are distinct from and greater than those for geothermal. This should be remedied. Geothermal energy is extremely valuable because it provides base-line energy that is sustainable in the long term and carbon free. Development of geothermal energy in the Salton Sea region will provide resources for additional environmental and economic development due to its contributions through royalty payments and regional taxes.

(3) Small scale desalination efforts in the region would provide a commercial salt product, as well as fresh water for the projects adjacent to the Sea. These desalination plants would tap into excess power production in the region (via solar, wind, or geothermal). Coastal desalination plants are highly controversial due to their impacts on marine life. The environmental consequences of desalination at the Sea would be positive, providing additional uses for excess energy in the region, and sources of revenue through the production of water and industrial chemicals from salt.

It goes without saying that a major concern in the region is the sustainable use of water, including the precious water that comes from the Colorado River. It is important that Colorado River water continue to be used for irrigating the crops of the Imperial and Coachella Valleys. These produce billions of dollars of crops including high quality vegetable, fruit and forage corps that feed the nation. The runoff from these irrigated fields could flow toward the Sea and into constructed marshes designed to support the production of fish and cover exposed beaches, protecting the health of hundreds of thousands of Californians. Some of the water will support local energy production, although renewable energy facilities use vanishingly small amounts of

water compared to every form of fossil fuel production. Agricultural runoff to the Sea will stabilize both the level and salinity of the Sea.

Water from the Colorado River will be doing triple duty. It will support agricultural productivity as it has for over a hundred years. Subsequently, it will maintain marshes that provide habitats for the production of fish essential for several dozen species of birds. The sustainable transformation of the Sea will provide abundant renewable energy, protect the shoreline, prevent the release of toxic dust, and protect and enhance the biological productivity of the Sea while providing a diverse and sustainable economic base for the entire region.

The challenges at the Sea need to be addressed with a strong voice and leadership. The California state government must play a role in affirming that the needs identified by local agencies (Salton Sea Authority, Cal Fish and Wildlife) are recognized, endorsed, and addressed. We believe that the challenges faced by the Salton Sea region are important not only to Imperial and Riverside Counties, but also to California, and to the entire southwestern United States. Acknowledgement of the scope of the problem is an important step toward raising awareness of state as well as national priorities on water use.

There is reason to be optimistic. The benefits to the environment, the economy, and the inhabitants of the region are both substantial and obvious. The region around the Sea can simultaneously be a hub for abundant renewable energy, an agricultural powerhouse, an ecological gem and a vibrant tourist destination that benefits us all.

Governor Brown, speaking for all Californians, has emphasized the need for economic growth, increased use of renewable energy, and environmental protection. He has shown the will to invest heavily in these important goals. The projects proposed for development at the Salton Sea advance all of these goals at modest cost. I fail to understand why the State has not moved aggressively in exploiting the renewable energy resources of the region, in carrying out the marsh-building projects already designed and on the shelf, and in protecting the health of its citizens. I hope that the Little Hoover Commission, through its recommendations, can direct the State's attention to the substantial economic and public health benefits of these approaches.

I appreciate the opportunity to provide you with these comments and I look forward to participating in the hearing to be held in Sacramento.

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